

HyperCube Updates

Version 9.8 (03/20/09)

1. PC: There are now two Windows executables: 32 bit and 64 bit. The later requires 64 bit XP or Vista OS. The former will run on either OS.
2. Mac and PC: A GeoTIFF that contains a single UTM tie point can be converted into a geographic coordinate image with geographic RPC's (Rational Polynomial Coefficients). The result can be saved as NITF with included RPC00B SDE (Support Data Extension). See menus File -> Open As... TIFF and Utilities -> GeoTIFF, JPEG to NITF in the documentation.
3. Mac and PC: Can save any selection area of an NITF or TIFF overview image as a full resolution image in NITF, TIFF, multiband (3 band color) or raw (single band) image format.
4. Mac and PC: Naming convention for program generated image windows has been changed. Any name extension on the source image is propagated to the end of the created image (e.g., menu Edit -> Duplicate adds 'copy' before any extension: 'name.tif' becomes 'name copy.tif') . Other operations do likewise.
5. Mac and PC: Menu Image -> Convert Image -> Color to H,S,I and the inverse (H,S,I to Color) have been extended to images with 16 bits per color. Also available using menu Functions -> Arithmetic.
6. PC: Bug fix: Saving any statistics during menu Image -> Convert Image -> Principal Components caused a crash. This was a relatively recent bug, much earlier versions were okay.
7. Mac: Bug fix: Menu Utilities -> Apply Transformation allowed the slash character, '/', in a file name which caused a file creation error message.

Version 9.7 (10/17/08)

1. PC: Bug fix: Menu Applications -> Contour did not overlay on the correct source image subset when a selection rectangle was present.
2. Mac and PC: Bug fix: Menu Utilities -> Wrap JPEG in NITF failed to include an external RPC file even if one was selected.

3. PC: Bug fix: The Load LASF Lidar dialog always assumed that the source file was generated via Optech/DashMap and ignored the LASF 1.1 selection.
4. Mac and PC: Can now generate a contour plot from a shaded relief's attached data. Previously, in this case, only the window gray values were available.
5. Mac and PC: A local 'Exclude zero' option has been added to menus Applications -> Shaded Relief and Applications -> Contour. This option temporarily overrides the global setting in menu Edit -> Options -> Pixel Exclusion.
6. Mac and PC: Menu Applications -> Contour now has an option to overlay the generated contour over a copy of the source image.
7. Mac and PC: When generating a sequence in menu Applications -> Perspective each defined orientation is saved in the resulting cube file's annotation (see menu Windows -> Show Band -> Annotation).
8. Mac and PC: Menu Applications -> Perspective includes an option to output the projected Data image as well as the projected Base image.
9. Mac and PC: Menus Image -> Filter -> 3x3 and 5x5 now respond correctly to menu Edit -> Options -> Pixel Exclusion when set to exclude zero.
10. Mac and PC: The menu Image -> Arithmetic function "gray()" checks the range of the argument values and if outside of [0,255] remaps them to [0,255] using a 98% interval centered about the median value.

Version 9.6 (08/15/08)

1. Mac and PC: Load ASCII Lidar added to menu File -> Open As. Lidar data that is in white space delimited columnar form can be processed similarly to Load LASF.
2. Mac and PC: Now able to interpolate "holes" in the intensity return image as well as the Z image in the Load LASF and Load ASCII Lidar dialogs.
3. Mac and PC: Bug fix: Menu Functions -> Mosaic -> Reference can do 8 bits/color. This was a crash on the PC.

4. Mac: Bug fix: The Info window (menu Window -> Show Info) incorrectly displayed image coordinates when the cursor was in the window title and scroll areas. Now limited to image content.

5. PC: Bug fix: Eight bits/color TIFF images in planar format did not read correctly.

6. Mac and PC: Bug fix: Menu Applications -> Shaded Relief sometimes produced a black image when the source image is 8 bit gray.

Version 9.5 (05/01/08)

1. Mac and PC: Bug fix: If menu Edit -> Options -> Pixel Exclusion resulted in all pixels being excluded then image histograms and remappings were incorrect. Now corrected.

2. Mac: Bug fix: Intermittent crash in menu Functions -> Flicker/Super for certain cursor screen positions.

3. Mac and PC: Bug fix: Menu Applications -> Contour now responds to any Edit -> Options -> Pixel Exclusion settings when determining contour intervals.

4. Mac and PC: Bug fix: Menu Functions -> Mosaic -> References: a zero pixel will no longer overwrite a non-zero pixel during the mosaic construction.

5. Mac and PC: Files of type: LASF (e.g., LIDAR point cloud data) have been added to menu Files -> Open As. They can be loaded as overviews and full resolution subsets. Images can not be saved as LASF.

6. Mac and PC: A new utility: menu Utilities -> Wrap JPEG in NITF has been added. This allows embedding (wrapping) an existing JPEG DCT or JPEG 2000 file within a NITF file.

7. Mac and PC: An embedded JPEG file within a NITF file can be extracted and saved as a completely separate JPEG file. If the file is JPEG DCT there is an option (presently) to display it. If a JPEG 2000 file then the only option is to extract and save it (HyperCube can not display JPEG 2000 files).

8. Mac and PC: Converting a gray scale unsigned 16 bit image using menu Image -> Convert Image -> Index to Color now produces a 16 bit color image consisting of 3 identical gray bands.

9. Mac and PC: The LAN/GIS file described previously in the HyperCube.pdf documentation has been removed from HyperCube.

Version 9.4 (03/01/08)

1. Mac: Bug fix: Zooming large images sometimes caused a program freeze.
2. Mac and PC: The menu Edit -> Options -> Image to Ref Coords dialog x & y reference fields were expanded to fix a problem with 3 digit longitudes. Also, can now input separate x and y scales for a single point reference and zone works correctly when converting from None or General.
3. Mac and PC: Grid color selection added to menu -> Edit -> Options -> Geo/UTM Ref Grids.
4. Mac and PC: Menu Image -> Convert Image -> Principal Components using a color image as the source yields an exact match as if using the equivalent 3 band color cube as the source image.
5. Mac and PC: Propagation of a referenced coordinate system is extended to all meaningful window constructs (i.e., the source image's coordinate system is carried to the created image).
6. Mac and PC: Bug fix: Menu Applications -> Stereo -> Compilation main dialog did not display correct triangulated values for image 1 (only a display problem).
7. Mac and PC: Menu Image -> Convert Image -> Replace Color now handles 16 bits/color and can overwrite the source image (useful for very large images).
8. Mac and PC: Sixteen bits/pixel data now remains 16 bits after magnifications and rotates. Previously, it ended up as float.
9. Mac and PC: Menu Functions -> Arithmetic options dialog. Can now remap 16 bit true color as a group or separately; previously, defaulted to separately. This affects the display not the underlying data.
10. Mac and PC: Menu Functions -> Plot -> Profile will display the length of the profile line in meters if the source image is Geo or UTM referenced. This will appear on the bottom of the output plot.

11. Mac and PC: Menu Image -> Filter -> Static 5x5 now includes 2 high frequency emphasis filters replacing the Laplacian high pass filter.

Version 9.3.1 (10/12/07)

1. Mac and PC: Additional Daubechies coefficients (even 2 through 20) added to menu Functions -> Image Arithmetic discrete wavelet transform (dwt) functions. Also, added functions: `dwt_avg()`, `dwt_detail()` and `dwt_nterms()`. See HyperCube.pdf.

2. Mac and PC: All Image Arithmetic functions that produce a constant such as: `mean()`, `mode()`, `median()`,... can now be listed in a separate text window. See Arithmetic Options Dialog "List constant function results" checkbox.

3. Mac and PC: Can now read/display (menu File -> Open As... ESRI Shape) a shape file plot by itself. Can choose whether to list the corresponding shape file records.

4. Mac and PC: Bug fix: Some menu Functions -> Image Arithmetic function argument constants overflowed. Fixed.

5. Mac and PC: Bug fix: Didn't maintain any 16 or 32 bit data when rotating exactly 90 degrees cw or ccw.

6. Mac and PC: Bug fix: Any geo reference of a cube file was not propagated to the output class map in menu Functions -> Classify when K-means was the selected classification method.

7. Mac: Bug fix: The Intel version crashed when saving a contour (menu Applications -> Contour) shape file. PPC version is okay.

8. PC: Bug fix: Crashed when loading a high density shape file created/saved from a contour plot.

Version 9.3 (08/25/07)

1. Mac: There are now separate Macintosh Power PC and Intel versions of the program. They are shown on the web page as HyperCube_PPC.dmg and HyperCube_Intel.dmg respectively. The PPC version will also run on the Intel architecture.

2. Mac and PC: The color domain and component selection have been added to menu Image -> Convert Image -> Histogram Equalize -> Match Image. Included are plots of the mappings.

3. Mac and PC: A new type of mosaicking that uses the reference coordinates (e.g., GeoTIFF) has been added in addition to the existing mosaic that uses image selection points. Menu Functions -> Mosaic -> References also includes histogram matching during the mosaicking operation.

4. Mac and PC: Can now read TIFF planar configuration type 2 image files. These files contain a separate plane for each color unlike type 1 that consist of red, green, blue triplets. This capability works with 24 and 48 bit color.

5. Mac: Bug fix: The selection rectangle could sometimes be moved off of the window area. Now fixed.

Version 9.2.1 (03/30/07)

1. Mac and PC: Bug fix: A newly introduced serious bug in version 9.2 that caused the program to hang when certain GeoTIFF tags were read is now corrected. This did not occur in version 9.1.

Version 9.2 (03/13/07)

1. Mac and PC: Any externally read RPC (Rational Polynomial Coefficients) files are now automatically included and saved within the TIFF or NITF file header as well as a separate text file. They are embedded in the RPC00B tag in NITF and a tentative new GeoTag (50844) in the TIFF header. When either file is re-read the internal tags are checked first. If missing then the program searches for a matching RPC file (e.g., name_rpc.txt) within the same directory (see documentation).

2. Mac and PC: Bug fix: The right image side height annotation vectors generated via menu Edit -> Options -> Geo/UTM Ref Grids were incorrect when the image was scrolled or zoomed.

3. Mac and PC: Bug fix: Sixteen bit per pixel color images crashed in menu Image -> Convert Image -> Histogram Equalize -> Match Image.

4. PC: Bug fix: Menu Functions -> Statistics -> Pair Correlations listed all zeros. This was a new bug. Versions prior to 9.1 were correct.

5. PC: Bug fix: The text list that appears when selecting menu Functions -> Plot -> Histogram with menu Edit -> Options -> Detailed Messages toggled-on always showed the min and max of 8 bit data to be 0, 255 not the actual min and max.